

WHAT IS CLAIMED IS:

1. A method for supporting an interworking between a Wireless Local Area Network (WLAN) and a mobile communications network, the mobile
5 communications network including a radio access network comprising a transceiver coupled to a radio network controller, the radio network controller being coupled to a core network, the method comprising the steps of:
— providing an InterWorking-Function (IWF) disposed on the WLAN side of the interworking; and
10 connecting the WLAN to the mobile communications network by employing the IWF as an auxiliary radio network controller associated with the mobile communications network.

2. The method of claim 1, wherein the mobile communications network
15 comprises a UMTS network and the IWF is employed as a Drift Radio Network Controller (DRNC).

3. The method of claim 2, wherein said connecting step connects the
20 WLAN to the mobile communications network through a user plane interface.

4. The method of claim 2, wherein the mobile communications network
has a Serving Radio Network Controller (SRNC), and the user plane interface is disposed between the IWF and the SRNC.

5. The method of claim 4, wherein said connecting step comprises the
25 step of establishing (175) an Iur interface between the IWF and the SRNC.

6. The method of claim 5, further comprising the step of diverting (175)
data from the SRNC to the WLAN through the Iur interface.

7. The method of claim 2, wherein said connecting step splits a control
30 plane between the mobile communications network and the WLAN and also splits a user plane between the mobile communications network and the WLAN.

8. The method of claim 7, wherein said connecting step comprises the step of transmitting (215) a radio link setup request from the SRNC to the IWF.

9. The method of claim 8, wherein said transmitting step is performed using a Radio Network Subsystem Application Part (RNSAP) message that includes at least one of Quality of Service (QoS) parameters and a type of dedicated/common transport channel.

10. The method of claim 4, further comprising the step of performing (225) Call Admission Control (CAC) by the IWF.

11. The method of claim 10, wherein said performing step is implemented based upon at least one of a type of service assigned by the IWF, a type of dedicated/common transport channel requested by the SRNC, and WLAN resources available in an Access Point (AP) to which a User Equipment (UE) will attach.

12. The method of claim 4, wherein the mobile communications network further includes a Serving General Packet Radio Service (GPRS) Support Node (SGSN), a Gateway General Packet Radio Service (GPRS) Support Node (GGSN), and a Node B, and said method further comprises the steps of:

forming a data path from a User Equipment (UE) to the IWF to the SRNC to the SGSN to the GGSN; and

forming a control path from the UE to the Node B to the SRNC to the SGSN to the GGSN.

13. The method of claim 2, further comprising the step of releasing (250) data bearers of the mobile communications network when activity has ceased on data channels of the mobile communications network.

14. An apparatus for supporting an interworking between a Wireless Local Area Network (WLAN) and a mobile communications network, the interworking being facilitated by an InterWorking Function (IWF) disposed on a WLAN side of the interworking, the apparatus comprising:

means for connecting the WLAN to the mobile communications network

using the IWF as a Drift Radio Network Controller (DRNC) for the mobile communications network.

15 15. The apparatus of claim 14, wherein said means for connecting connects the WLAN to the mobile communications network through a user plane interface.

10 16. The apparatus of claim 14, wherein the mobile communications network has a Serving-Radio-Network-Controller-(SRNC), and the user-plane interface is disposed between the IWF and the SRNC.

17. The apparatus of claim 16, wherein said means for connecting comprises means for establishing an Iur interface between the IWF and the SRNC.

15 18. The apparatus of claim 17, further comprising means for diverting data from the SRNC to the WLAN through the Iur interface.

20 19. The apparatus of claim 14, wherein said means for connecting splits a control plane between the mobile communications network and the WLAN and also splits a user plane between the mobile communications network and the WLAN.

20 20. The apparatus of claim 19, wherein said means for connecting comprises means for transmitting a radio link setup request from the SRNC to the IWF.

25 21. The apparatus of claim 20, wherein said means for transmitting uses a Radio Network Subsystem Application Part (RNSAP) message that includes at least one of Quality of Service (QoS) parameters and a type of dedicated/common transport channel.

30 22. The apparatus of claim 16, further comprising means for performing Call Admission Control (CAC) by the IWF.

23. The apparatus of claim 22, wherein said means for performing CAC employs at least one of a type of service assigned by the IWF, a type of

dedicated/common transport channel requested by the SRNC, and WLAN resources available in an Access Point (AP) to which a User Equipment (UE) will attach.

24. The apparatus of claim 16, wherein the mobile communications network
5 further includes a Serving General Packet Radio Service (GPRS) Support Node (SGSN), a Gateway General Packet Radio Service (GPRS) Support Node (GGSN), and a Node B, and said apparatus further comprises:

means for forming a data path from a User Equipment (UE) to the IWF to the SRNC to the SGSN to the GGSN; and

10 means for forming a control path from the UE to the Node B to the SRNC to the SGSN to the GGSN.

25. The apparatus of claim 14, further comprising means for releasing data
bearers of the mobile communications network when activity has ceased on data
15 channels of the mobile communications network.